**IN THE CLAIMS:**

– Claim 1 (Currently Amended) A structure comprising:

a substrate having a surface;

a plurality of bond wire elongated electrical conductors extending away from said surface;

each of said bond wire elongated electrical conductors having a first end affixed to said surface at an electrical contact location and a second end projecting away from said surface;

there being a plurality of said second ends;

said first end and said second end of said bond wire elongated electrical connector having a ball-shaped protuberance positioned thereon;

means for permitting each of said plurality of said second ends to move about reference positions;

wherein said means for permitting each of said plurality of second ends to move about reference positions is a sheet of material having a plurality of through-holes therein through which said second ends project, there being a perforation in each said sheet in the vicinity of said openings. –

– Claims 2- 3 (Cancelled)

– Claim 4. (Currently Amended) [A] The structure according to claim ~~3~~ 1 wherein said perforation comprises a plurality of independent perforations about each of said through hole. –

– Claim 5. (Currently Amended) [A] The structure according to claim ~~3~~ 1 wherein said perforation comprises a plurality of independent perforations about at least a part of said plurality of through-holes. –

– Claim 6. (Currently Amended) The structure according to claim ~~3~~ 1 wherein said perforation is a portion coupled to an adjacent through-hole. –

– Claim 7. (Curently Amended) [A] The structure according to claim ~~3~~ 1 wherein said perforation is a portion coupled to an adjacent through-hole. –

– Claim 8. (Currently Amended) [A] The structure according to claim ~~3~~ wherein said perforations form a cantilevered flap about at least one of said through-holes. –

– Claim 9. (Currently Amended) The structure according to claim ~~3~~ 1 wherein a plurality of said perforations form cantilevered flaps about more than one of said through-holes –

– Claim 10. (Currently Amended) ~~A~~ The structure according to claim 1 wherein at said second end there is disposed a structure selected from the group consisting of a protuberance and a sharp. –

– Claim 11. (Currently Amended) ~~A~~ The structure according to claim ~~3~~ 1 wherein at said second end there is disposed a structure selected from the group consisting of a protuberance and a sharp. –

Claim 12 (Currently Amended) ~~A~~ The structure according to claim ~~3~~ 1 wherein said sheet comprises a sheet of electrically conductive material having a plurality of through holes therein, said sheet of material contains a dielectric material to provide a means for preventing said elongated electical conductors from electrically contacting said sheet of electrically conductive material. –

Claim 13 (Currently Amended) ~~A~~ The structure according to claim ~~3~~ 1 wherein said sheet is spaced apart from said surface by a flexible support.

Claim 14 (Currently Amended) ~~A~~ The structure according to claim 13 wherein said flexible support is selected from the group consisting of a spring and an elastomeric material.

The following claims are all "**original**" unless otherwise indicated.

15. A structure according to claim 1 wherein said elongated electrical conductors have a shape selected from the group consisting of linear, piece wise linear, curved and combinations thereof.

16. A structure according to claim 13 wherein said sheet and said flexible support form a space containing said plurality of elongated electrical conductors.

17. A structure according to claim 16 wherein said space is filled with a flexible material.

18. A structure according to claim 17 wherein said flexible material is an elastomeric material.

19. A structure according to claim 12 wherein said sheet has a top surface and a bottom surface and said through holes have a sidewall, said dielectric material coats said top surface and said bottom surface and said sidewall.

20. A structure according to claim 1 wherein said plurality of elongated electrical conductors are distributed into a plurality of groups.

21. A structure according to claim 20 wherein said plurality of groups are arranged in a array.

22. A structure according to claim 1 wherein said structure is a probe for an electronic device.

23. A structure according to claim 22 wherein said electronic device is selected from the group consisting of an integrated circuit chip and a packaging substrate.

24. A structure according to claim 21 wherein each of said groups corresponds to an integrated circuit chip on a substrate containing a plurality of said integrated circuit chips.

25. A structure according to claim 24 wherein said substrate containing said plurality of integrated circuit chips is a wafer of said integrated circuits chips.

26. An apparatus for using said structure of claim 1 to test an electronic device comprising:
means for holding said structure of claim 1, means for retractable moving said structure of claim 1 towards and away form said electronic device so that said second ends contact electrical contact locations on said electronic device, and means for applying electrical signals to said elongated electrical conductors.

27. A structure according to claim 10 wherein said protuberance is spherelike.

Claim 28 (Currently Amended) ~~A~~ The structure according to claim ~~3~~ 1 wherein said sheet comprises a sheet of electrically conductive material having a plurality of through holes therein, and a sheet of dielectric material having a plurality of second through holes therein, said first through holes are aligned with said second through holes, said first through holes have a smaller diameter than said second through holes to provide a means for preventing said elongated electical conductors from electrically contacting said sheet of electrically conductive material. –

29. A structure according to claim 28 wherein sheet or electrically conductive material has a first side and a second side, said sheet of dielectric material is disposed on either of said first side and said second side of said sheet of electrically conductive material.

30. A structure according to claim 29, where there is disposed on said first side and said second side of said sheet of electrically conductive material a layer of said dielectric material.

Claim 31. (Currently Amended) ~~A~~ The structure according to claim ~~3~~ 1 wherein said sheet comprises a sheet of rigid material having a plurality of through holes therein, said sheet contains a dielectric material to provide a means for preventing said elongated electical conductors from electrically contacting said sheet of electrically conductive material. –

32. A structure according to claim 3 wherein said sheet comprises a sheet of dielectric material having a plurality of through holes therein, said sheet contains a sheet of a rigid material disposed in contact with said sheet of dielectric material, said sheet of rigid material has on opening therein exposing a plurality or said through holes to provide a means for support of said dielectric material.

33. A structure according to claim 31 wherein said sheet is spaced apart from said surface by a flexible support, said sheet of rigid material is disposed on said flexible support.

34. An apparatus for making electrical contact with a plurality of bond pads on an integrated circuit device comprising:
a first fan out substrate having a first surface;
said first surface having a plurality of contact locations;
a plurality of ball bonds attached to said plurality of contact locations;
a plurality of wires extending outward from said ball bonds, away from said first surface on fan out substrate;
a plurality of ball shaped contacts on the ends of said plurality of wires;
a means for permitting each of said plurality of ball shaped contact to move about corresponding reference positions.

35. An apparatus according to claim 34, wherein said fan out substrate type includes but is not limited to the following:
multilayer ceramic substrates with thick film wiring;
multilayer ceramic substrates with thin film wiring;
metallized ceramic substrates with thin film wiring;
epoxy glass laminate substrates with copper wiring;
silicon substrates with thin film wiring.

36. An apparatus according to claim 34, further including a preformed frame of foamed elastomer material surrounding clusters, groupings, or arrays of said probes.

37. An apparatus according to claim 36, further including a layer of elastomer material surrounding said probes in said cluster.

38. An apparatus according to claim 37, further including a sheet of Invar material that has a thin coating of a polymer material and a plurality of openings corresponding to said plurality of ball shaped contacts.

39. An apparatus according to claim 37, further including a sheet of Invar material with a plurality of large diameter openings corresponding to said plurality of ball shaped contacts.

40. An apparatus according to claim 37, further including a sheet of polymer material with a plurality of small diameter openings corresponding to said plurality of ball shaped contacts place on top of said sheet of Invar material.

41. An apparatus according to claim ___, further including a sheet of polymer material with a plurality of openings corresponding to said plurality of ball shaped contacts.

42. An apparatus according to claim 41, further including a frame of Invar material attached to said sheet of polymer material with said plurality of openings corresponding to said plurality of ball shaped contacts.

43. An apparatus according to claim 38, further including a thick frame of Invar material attached to said sheet of Invar material with said thin coating of a polymer material and said plurality of openings corresponding to said plurality of ball shaped contacts.

44. An apparatus according to claim 39, further including a plurality of probes arrays corresponding to the location of a plurality of IC devices on a wafer.

45. An apparatus according to claim 36, further including a sheet of Invar material that has a thin coating of a polymer material and a plurality of openings corresponding to said plurality of ball shaped contacts.

46. A method comprising:

providing a substrate having a surface;

forming a plurality of elongated electrical conductors extending away from said surface;

each of said elongated electrical conductors having a first end affixed to said surface and a second end projecting away from said surface;

there being a plurality of said second ends;

providing a means for permitting each of said plurality of said second ends to move about reference positions.

47. A structure according to claim 3 wherein said sheet is formed and material selected from the group consisting of Invar, Cu/Invar/Cu, molybdenum, polyimides.

48. A structure according to claim 3 wherein said sheet is formed from a material selected from the group consisting of a metal, a polymer, a semiconductor and dielectric.

49. A structure according to claim 42 wherein said dielectric is selected from the group consisting of a ceramic and a glass.

50. An apparatus for making electrical contact with a plurality of aluminum bond pads on an integrated circuit device comprising:

a first fan out substrate having a first surface;
said first surface having a plurality of contact locations;
a plurality of ball bonds attached to said plurality of contact locations;
a plurality of wires extending outward from said ball bonds, away from said first surface on fan out substrate.
a plurality of ball shaped contacts on the ends of said plurality of wires.

51. A high density probe according to claim 1, wherein said fan out substrate type includes but is not limited to the following:

multilayer ceramic substrates with thick film wiring
multilayer ceramic substrates with thin film wiring
metallized ceramic substrates with thin film wiring
epoxy glass laminate substrates with copper wiring
silicon substrates with thin film wiring

52. A structure according to claim 1, further including a layer of elastomer material surrounding said probes.

53. A structure according to claim 3, further including a sheet of polymer material with a plurality of cantilever flaps and openings corresponding to said plurality of ball shaped contacts.

54. A structure according to claim 4, further including an epoxy material used to bond the plurality of ball shaped contacts to the corresponding openings in the cantilever flaps.

55. A structure according to claim 5, wherein the action of mating the plurality of probes to the plurality of flat or recessed contacts on the IC device causes said plurality of ball shaped contacts to wipe against the IC contacts.

56. A structure according to claim 3, further including a plurality of cylindrical collars concentrically located on the plurality of probe wires and positioned between the top surface of said elastomer material and the ball shaped contact on the end of said probe wires.

57. A structure according to claim 7, further including a sheet of polymer material with a plurality of openings corresponding to said plurality of cylindrical collars concentrically located on the plurality of probe wires.

58. A structure according to claim 6, further including a plurality of probes arrays corresponding to the location of a plurality of IC devices on a wafer.

59. A structure according to claim 1 where in said means for permitting is a sheet of material having a plurality of openings therein through which said second ends project.

60. A method according to claim 46 further including moving said second ends into contact with a workpiece, said second ends moving about said reference positions.